2:Kahn D-5 (1922-1930) 1931
SR8 Bush Negroes SR8

241 313 Behind each village, a quarter of a mile to five miles distant, are its provision grounds, which the women work. They consist of tiny patches of half an acre or more, carved out of the heart of the jungle by means of terrific labour. It [442] takes the men weeks of work with axes and bush-knives to clear the ground. The fallen trees, some of extremely hard wood, are cut up, burnt, or carried away. The brush is cleared with a machete, or bush-knife, which Negroes call a neefee; they swing this blade with amazing force by making the wrist the centre of its arc.

462 241 The women, as in most primitive societies, tend to the planting and harvesting of the crops. They are helped by the men of the family on some occasions, such as when the harvest is threatened by voracious parasites. The arduous labour of cultivating the stubborn earth comes so naturally to a Bush Negro woman that she is incredulous when told that elsewhere the males alone till the soil.

136 241 A leaf-cutting ant, *Ecodoma cephalotes,* that carries small bits of leaves into its nest, preys on the cassava fields. These ants march in two parallel columns, one going to the fields and the other returning, and systematically ruin the crop. The bit of green that each ant is carrying off looks like an umbrella; hence they are called umbrella ants. They live on a fungus which they grow on the cut leaves. Large numbers of them working together can denude an entire cassava field in a comparatively short time.

134 241 The jungle ground is not excessively fertile, for the incessant downpours leach out the humus, and there is not

2: Kahn D-5 (1922-1930) 1931
SR8 Bush Negroes SR8

sufficient time for the nitrogenous substances to be reduced to fertilizing material. Because of this poverty of the ground and the constant foraging of insect and bird pests—the parrot is notorious among these—the cultivation of food is difficult and laborious for the Bush Negroes and the provision ground must often be moved to a fresh site.

Their main carbohydrate staple is the manioc or bitter cassava. It is a tuber-like plant that grows some three to seven feet in height, the edible portion being the underground root. The root contains the poisonous prussic acid, which must be carefully removed. Bush Negroes have been known to commit suicide by drinking the juice of the cassava. The plant itself resembles the tobacco plant, but has a stalk covered with bark and large roots that look like sweet potatoes.

The roots are harvested, carefully peeled, and reduced to a pulp by being rubbed on the roughened surface of an inclined board, the expelled free juices rolling down the incline into a bowl. The rest of the plant is thrown away. The pulp is stuffed into a cylindrical squeezing contrivance made of reed, known as the *matapee*. It resembles one of those toy finger grippers of straw that children play with. The reeds being flexible, elongating the tube by pulling at the ends reduces the diameter of it; this compresses the contents of the cylinder and squeezes out the deadly juice which then runs off into a bowl below. The matapee is a beautifully woven piece of basketry about five feet long and seven inches in diameter. The upper end is attached to the limb of a tree and a heavy stone is suspended from the lower end, the

/139 cont./

13 seems too high to me), the ants can bring into the soil each year two to three tons of leaf material per hectare. As a result the soil would be so enriched with humus and, in addition, through the construction of the numerous nest corridors, receive so much extra ventilation that the oxygen content and the microbiological condition of this soil would tend to differ from the mineral soils in which the virgin forest is rooted. As proof of this, it is stated "that even the oldest ant-kapoeweri directly behind the villages shows no tendency to grow into normal high forest" (p. 13).

114 137 136 It does not seem correct to me to ascribe this kapoeweri phenomenon only to the presence and the activity of the leaf-cutting ants. In my opinion the ants here constitute a troublesome contributing factor, for when the virgin-forest grounds are abandoned by the population and no new food material is available to the ants while the kapoeweri gradually grows into higher forest, then the balance in the ant population re-establishes itself. This process takes place at a slow rate, depending on the local circumstances, but it leads to the re-establishment of the original situation. There is, however, one condition connected with it, namely, that the forest be left in peace for a long enough stretch. 241 134 Now this last is not the case for the grounds area of the Bush Negroes. They return too soon (within ten years) to clear grounds again, with the consequence that the soil becomes too exhausted and the recovery of the forest becomes impossible.

171 241 137 [136] Proof for this viewpoint is already provided by Stahel (loc. cit.) in his consideration of the agriculture of the upland Indians. The absence of the ant-kopoeweri there is not a matter of a lesser ant infestation, as Stahel /140/ believes -- for in places this is equally serious -- but of a less intensive use of the forest lands. [161] 423 [361] The Indians are present in small numbers (a few hundred, as against thousands of Bush Negroes), while only communal plots are laid out for one village, and not different ones for each family. In addition, the Indians move frequently in order to find new hunting and fishing grounds.

/140 cont./

241 There is yet another factor which plays a role in the origin
134 of the grounds-kapoeweri. This is the use of fire in clearing the
137 ground. The burning of the cut forest is done at the expense of the humus on and in the soil. The fertilization with ashes that one obtains by it only partially covers this loss. Furthermore, under the influence of the fire there are great disturbances in the balance of the microflora and fauna of the soil, hindering the conversion of organic materials into inorganic compounds. Sun and rain bring changes in the structure of the scorched earth, which forms a cement-like crust and becomes sealed. Also the growing of cultivated crops, especially cassave, draws many mineral components from the soil.

13 It is clear that the soil needs time to recover after this disturbance of the balance. This period of time is estimated at 25-30 years. The leaf-cutting ants play a part in this; they again enrich the soil with humus by bringing great quantities of leaves into their ground nests. In addition, they ventilate the soil by digging numerous nest corridors. In this manner the ants contribute
[242] to the recovery. It is well-known, moreover, that the soil on old leaf-cutting ant nests is fertile; one likes to plant bananas on it. If we assume with Stahel that in this kapoeweri six ant nests per hectare are found, then these nests together would only have a maximum surface of one-tenth of it. This would never be able to hinder the full growth of the forest.

136 That the leaf cutting ants occupy the secondary growth, or at
137 least are present there in greater numbers than is normally the case
241 in the forest, may be a consequence of the laying out of new grounds within their domain. Because of the lack of land, the Bush Negroes are constantly trying to lay out grounds again in this forest. The ants, moreover can maintain themselves because there are various forest trees that supply the ants with sufficient leaf material.

13 Thus, because of both the decreased capacity of the soil and
311 the presence of the leaf-cutting ants, the ant-kapoeweri forms a terrain that has become unusable for present-day primitive Bush Negro agriculture./141/ And from the standpoint of forestry too the ant-kapoeweri is worthless.

000/141 cont./
241 of this predatory cultivation has been reached. The nearby
423 agricultural lands are kept in use with too brief a rest period, with
[134] the result that the soil is overworked and the periodic recovery
[825] of the forest proceeds at an ever slower pace. In addition one struggles to an increasing degree with the problem /142/ of the leaf-cutting ants, which keep the easily accessible places occupied.

241 The consequence of this circumstance is that the Bush Negroes
311 are forced to make the grounds farther and farther from their vil-
[484] lages. One travels for hours up or down the river in order to
[482] reach good land. When one cannot make good use of a forest creek in order to transport the produce from the field, one is forced to carry the harvest for one or two hours through the forest to the river. The Bush Negro does not go farther than a two hours' walk (about six kilometers from the river) (see the map /see p. 13 /).

241 On the Tapanahoni one spends even days in traveling to less
311 populated areas in order to plant and to harvest. One then estab-
361 lishes so-called work camps along the river, from which one
[103] operates in the surrounding areas. This is the case, among others, between Godoholo and Granbori for people from Drietabbetje or
311 other centers. That one does not go even farther up river, all the
423 way past the last village, Granbori, has to do with a prohibition
643 by the granman of the Aucaners. That is, the latter wants to reserve the lands lying beyond this point as hunting lands and therefore will not make them available for agricultural purposes.

241 The inhabitants of the villages along the lower Tapanahoni,
311 such as Sajé, Clementi, and Malobbi, frequently lay out their food
423 grounds in the Lawa, where they can have at their disposal agri-
361 cultural lands as far as the Aboenasoengoe Falls. Farther upstream
103 on this river the Bonni or Aloekoe Negroes assert their rights.

5. Differences between Aucaners and Paramaccaners

101 The conditions given above apply in the main to the Aucaner
162 Bush Negroes of the Tapanahoni. They number today approximately
[311] 6,500 persons. The Paramaccaner Bush Negroes of the Marowijne, approximately 1,700 in number, are in somewhat more favorable

/5 cont./

133 This extreme fragmentation of the relief must be remembered
182 as one of the ecological factors influencing the human peopling most directly; it renders the transport of heavy loads impracticable, the establishing of roads practically impossible. Men are led to
[361] settle along the rivers, which constitute the only routes of penetration toward the interior of the country.

133 All the important rivers flow into an alluvial valley whose
132 width varies from some tens of meters to a kilometer, dry during the greater part /6/ of the year, but flooded under several meters
• 134 of water during the great rains of May-June. This annual inunda-
241 tion makes the alluvial lands unfit for agriculture; the inhabitants of Guiana cultivate only sloping lands and even very steep slopes readily; for good drainage of the soil is indispensable for the raising of manioc whose tubers, which remain in the ground for more than a year, are threatened with rotting.

311 The cultivable zone is in fact closely limited around each village. Practically, it is limited to a strip of 1,500 to 2,000 meters along the banks of each watercourse accessible to pirogues.
[482] Transport of manioc tubers, carried on by the women several
[462] times a month, becomes impracticable if the distance to be covered with loads is greater than two kilometers at the maximum (1).

[101]
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1. The Djuka, very numerous on the Tapanahoni, cultivate as far as three or four kilometers from the river; but in general, the Refugee Blacks prefer to build farming habitations at a distance of several days' by boat from their village when this gives them the possibility of farming in the neighborhood of the banks.

/1 cont./

132 [513] The climate is relatively temperate and easy for the European to stand. In the forest the thermometer does not rise to more than 28° during the hot hours, to go back down to 20° at the end of the night: everyone sleeps with a blanket, Refugee Blacks and Creoles as well as Europeans. Humidity is very great during nearly all the year; precipitation averages three meters a year or about 50 centimeters less than at Cayenne. The year is divided into two seasons: "summer" from July to December, and the rainy season the rest of the year, with a maximum of precipitation in May and June. The water level varies considerably in the course of the year (several meters). The populations of the interior, [36] spaced out along the rivers, suit the rhythm of their lives to the [164] height of the water; the water rules transportation, fishing, and crops; moreover, a certain number of illnesses are in close relation to the rains, in particular those which have an insect for vector.

241 [134] Almost everywhere the soil is very poor in organic matter and fundamental ingredients, very waterlogged necessitating the practice of an itinerant agriculture on burned-over areas; the period of fallow ground varies from two to ten years, the optimum seeming to be about six. [136] The inhabitants of Guiana cannot allow ground to lie fallow regularly because of the ravages of the manioc ant, /8/ which is active especially in habitually cultivated zones.

[134] Vain and costly efforts made by Europeans notably at Saint-Jean du Maroni about 1950, have shown that the fertility of lands not [242] burned over is practically nil. The Indians and the Refugee Blacks consider that the fertility of the soil depends exclusively on the weight of cinders laid down during the burning.

When burned-over areas are cultivated, only one harvest is obtained; but this harvest is abundant, and the soil thus utilized can be regarded as relatively fertile. The knocking down and burning do not require great labor, so that primitive agricultural methods can be considered to give a good yield. As a matter of fact, the 241 179 diverse populations of Guiana, Creoles and Refugee Blacks, have entirely adopted the methods of work resulting from the millennial

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There are no gardens around the cabins because the conditions of the soil and climate render permanent cultivation impracticable. The nearest thing is a few persons planting some banana trees around the hut at the foot of which they spread the hearth ashes. As a general rule villages are closely hemmed in by secondary brushwood, and people plant far from one another and sometimes very far from the village.

If it does not admit the appropriation of land to individuals, custom does admit, on the other hand, the ownership of trees. In the villages the useful trees (coconut trees, maripa palms /attalea excelsa/, mango trees, cashew-apple trees, etc.) all have owners. The tree is considered as personal property and is transmitted by inheritance in the same way as a gun or a canoe. The procedure employed by the Boni for the dispersion of the inheritance among the members of the lineage of the dead man sometimes has the effect of transmitting the ownership of a tree to a person who is not of the village. For example, in Boniville where a fraction of the Kotika lineage lives, two caumou palms were bequeathed a long time ago to members of the lineage living in Kotika, who come each year to gather the fruit.

Appendix

Local Chronology Used for Determining Ages

1876 Death of Grand Man Atyaba.

1877 Trip of the explorer Crevaux from the Maroni to the Yari and the Amazon, in the company of Apatu, head of the Boni village.

1882 Apatu secedes, taking with him about 150 persons and founds the village which bears his name on the lower course of the Maroni.

6:Hurault--169 K-5 (1948-1958) 1961 SR8 Bush Negroes SR8 Boni

[Same habitation (Pikin Tabi K.)]

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No.		Last User	Year	By What Right	Duration of Last Fallow Period
3	○	Mélita; clearing cut by her husband Kwata	1955	id.	2 years (cut for the 1st time in 1952)
4	○	Mélita; cl. cut by her son Déési	1954	id.	3 years (cut for the 1st time in 1948, then in 1953 for the 2nd time
5	○	Téké; cl. cut by her husband Baïna	1951	id.	3 years (cut in 1948 for the 1st time)
6	○	Téké id.	1953	id.	cut for the 1st time

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Farming Habitations downstream from Maripasoula

Several habitations are installed in the Kuyaku locality very fertile region giving high yields of manioc (1).

1- This fertility is explained by the nature of the subsoil (sills of dolerite).

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Ownership of the land: Dipélu Ii lo (Kormotibo village). Several habitations side by side: